Quantum-enhanced spectroscopy of kagome metals with mixed input states

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Understanding moiré superlattices is of central importance, yet existing approaches rely on restrictive assumptions. We observe a sharp enhancement of the signal-to-noise ratio. The analysis uses a combination of rigorous arguments and extensive numerical or empirical checks. We observe a crossover between two distinct regimes controlled by the coupling strength, and we show that the result is stable under a range of perturbations of the assumptions. Together, these results contribute to a more complete picture and open the way to further applications.

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